

PATENT SPECIFICATION

327,776

Application Date: Jan. 22, 1929. No. 2157/29.

Complete Left: Oct. 22, 1929.

Complete Accepted: April 17, 1930.



PROVISIONAL SPECIFICATION.

Improved Large Diaphragm or Cone Reproducer applicable for use in Gramophones and Loud Speakers.

We, WILLIAM GEORGE JEFFERY and WILFRED JOSEPH JEFFERY, both of 143, Balaam Street, Plaistow, London, E.13, English, do hereby declare the nature of this invention to be as follows:—

This invention relates to an improved large diaphragm or cone reproducer applicable for use in gramophones and loud speakers.

10 It can be used as a talking machine for reproducing sound from records by use of an ordinary gramophone needle or reproducing point, or may be used as a loud speaker when connected with the usual moving, driving, or driven mechanism.

Our invention consists of the following, viz, a sound amplifier in the form of a cone, or any other shaped diaphragm is mounted in a frame, so as to permit the whole, or the greater portion of the cone, or diaphragm to be in operative contact with the air, and, at the same time to allow of fairly free up and down, and side movements of the cone, or diaphragm. This is accomplished in the following manner, viz, soft rubber, felt, or any other suitable

material is attached to, or near to the internal edge of the frame so as to form a cushion for the cone or diaphragm to rest upon, the line of support being a little lower than the bottoms of a number of slots, which are cut out from the edge of the cone or diaphragm, at intervals in such a manner that each slot is directly opposite another slot in the line of the diameter of the cone, or diaphragm, elastic tapes, or ligaments, or rubber tapes, are stretched across the frame, and repose in the above mentioned slots, the ends of the said tapes or ligaments, being fastened securely to the frame by means of screws, bolts and nuts, or by clamping.

The cone or diaphragm may be made of paper, card, cloth, thin metal, or of any other suitable material that is capable of being shaped, moulded or spun.

The frame may be made of wood, metal, or of any other suitable material.

Dated the 22nd day of January, 1929.

W. G. JEFFERY.
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COMPLETE SPECIFICATION.

Improved Large Diaphragm or Cone Reproducer applicable for use in Gramophones and Loud Speakers.

We, WILLIAM GEORGE JEFFERY, 143, Balaam Street, Plaistow, London, E.13, British, WILFRED JOSEPH JEFFERY, 143, Balaam Street, Plaistow, London, E.13, British, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to an improved large diaphragm or cone reproducer applicable for use in gramophones, and loud speakers.

It can be used in a talking machine for reproducing sound from records by use of an ordinary gramophone needle
[Price 1/-]

or reproducing point, or may be used in a loud speaker when connected with the usual driving, driven, moving, or actuating mechanism as used and employed with loud speakers.

According to our invention, a cone, or any other shaped diaphragm for use in a talking machine, or loud speaker, is retained or kept in position in or on a frame by the use of elastics, tapes, ligaments, or the like, the said elastics, tapes, ligaments, or the like being stretched or placed across the said frame in front of the cone, or any other shaped diaphragm, so as to bear against the diaphragm without being secured thereto, the ends of

the said elastics, tapes, ligaments, or the like being secured or fastened to the said frame by screws, bolts and nuts, clamping, or any other suitable method, the
 5 said elastics, tapes, ligaments, or the like forming the sole means for retaining or keeping the cone, or the any other shaped diaphragm in position in or on the said frame. The cone, or the any
 10 other shaped diaphragm is preferably supported on a cushion of rubber, felt, or any other suitable material that is attached, or connected to, or near to, the internal edge of the said frame so as to
 15 permit or allow the greater portion of the cone, or the any other shaped diaphragm to be in operative contact with the air. In order to make more sure that the said cone, or any other shaped
 20 diaphragm is retained in position in or on the said frame, a number of slots are preferably cut from the edge of the said cone, or any other shaped diaphragm, in which said slots the said elastics, tapes,
 25 ligaments, or the like are placed or reposed.

Although our invention relates to the use or employment of cones, or any other shaped diaphragms, we have, in the
 30 accompanying drawing, for the purpose of illustrating a form that our invention may take, depicted a sound reproducer or amplifier in the form of a cone A, Figs. 1, 2 and 3, which is mounted or
 35 placed in or on a frame B, Figs. 1, 2 and 3, and supported therein or thereon, on rubber, felt, or any other suitable material C, Fig. 2, and shown on a larger scale in Fig. 3, which said rubber,
 40 felt, or any other suitable material is attached to, or near to, the internal edge of the frame B, so as to form a cushion for the cone, or the any other shaped diaphragm to rest upon, the line of support being lower than a number of slots
 45 D, Figs. 1, 2 and 3, that may be cut out of or from the edge of the cone, or the any other shaped diaphragm that may be used, the said slots being cut out at intervals in such a manner that each slot is
 50 opposite another slot in the line of the diameter of the cone, or the any other shaped diaphragm used.

Elastics, tapes, ligaments, or the like
 55 E, Figs. 1 and 3, are stretched, or placed across the frame and the cone, or any other shaped diaphragm that is mounted and supported therein or thereon, and repose in the said slots, the ends of the
 60 said elastics, tapes, ligaments, or the like being secured or fastened to the frame by means of screws, bolts and nuts, clamping, or any other suitable method.

The cone, or the any other shaped diaphragm may be made of paper, card,

cloth, thin metal, or of any other suitable material that is capable of being moulded, shaped, or spun. The frame may be made of wood, metal, or of any other suitable material, and in any shape suitable to the type of cone, or the any other shaped diaphragm used.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. In a talking machine, or in a loud speaker, a sound amplifier, or reproducer in the form of a cone, or any other shaped diaphragm made of paper, card, cloth, metal, or of any other suitable material that is capable of being shaped, moulded, or spun, the said cone, or the any other shaped diaphragm having a number of slots cut out of or from its edge or edges, the said cone, or the any other shaped diaphragm being kept or retained in position in, or on, a frame which may be made of metal, wood, or of any other suitable material, by means of elastics, tapes, ligaments, or the like being stretched, or placed across the said frame, and reposing or placed within the said slots cut out of or from the edge or edges of the said cone, or the any other shaped diaphragm, the ends of the said elastics, tapes, ligaments, or the like being secured or fastened to the frame by means of screws, bolts and nuts, clamping, or any other suitable method.

2. In a talking machine, or in a loud speaker, the means of retaining or keeping a cone, or any other shaped diaphragm in position in or on a frame by the use of elastics, tapes, ligaments, or the like, the said elastics, tapes, ligaments, or the like being stretched or placed across the said frame in front of the cone, or the any other shaped diaphragm, so as to bear against the cone, or the any other shaped diaphragm without being secured thereto, the ends of the said elastics, tapes, ligaments, or the like being secured or fastened to the said frame by screws, bolts and nuts, clamping, or by any other suitable method, the said elastics, tapes, ligaments, or the like forming the sole means for retaining or keeping the cone, or the any other shaped diaphragm in position in, or on, the said frame.

3. The method of mounting, and supporting, and retaining in position, in or on a frame, a cone, or any other shaped diaphragm, substantially as described.

Dated the 22nd day of October, 1929.

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FIG. 1.

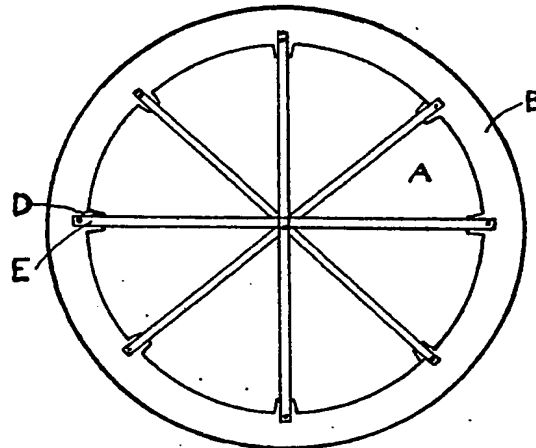


FIG. 2.

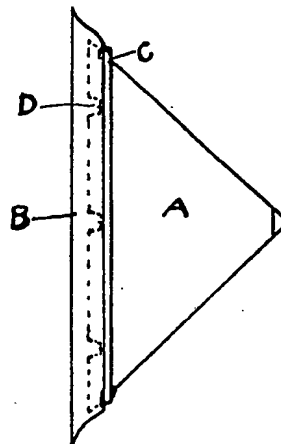
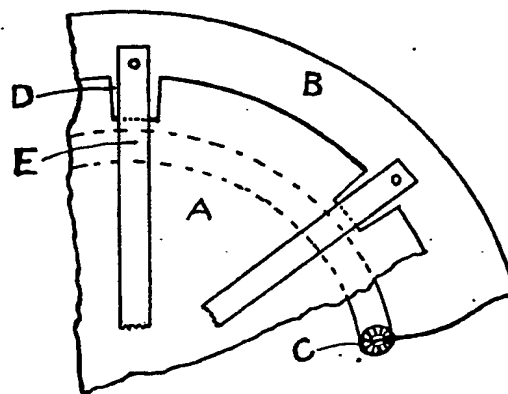


FIG. 3.



[This Drawing is a reproduction of the Original on a reduced scale.]